

Appl. No. 10/770,258
Examiner: CHEN, WEN YING PATTY, Art Unit 2871
In response to the Office Action dated November 29, 2005

Date: February 28, 2006
Attorney Docket No. 10113711

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (Previously presented): A liquid crystal module, comprising:

a body; and

a circuit board disposed on the body, having a substrate, a plurality of lead wires enclosed by the substrate, a plurality of openings in the substrate exposing the lead wires, an LED and a Zener diode each coupled to the lead wires through the openings, wherein the LED and the Zener diode are juxtaposed on the lead wires.

Claim 2 (Original): The liquid crystal module as claimed in claim 1, wherein the Zener diode is coupled to the lead wires by welding.

Claim 3 (Original): The liquid crystal module as claimed in claim 1, wherein the body is rectangular.

Claim 4 (Original): The liquid crystal module as claimed in claim 1, wherein the body is made of plastic.

Claim 5 (Original): The liquid crystal module as claimed in claim 1, wherein the liquid crystal module is a liquid-crystal display of a mobile phone.

Claim 6 (Original): The liquid crystal module as claimed in claim 1, wherein the liquid crystal module is a liquid-crystal display of a personal digital assistant.

Claim 7 (Previously presented): A liquid crystal module, comprising:

a body; and

a circuit board disposed on the body, comprising a substrate having a first side and a second side, a plurality of lead wires enclosed by the substrate between the first side and the

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second side, a plurality of openings formed on the first side and the second side to expose the lead wires, an LED coupled to the lead wires through the openings on the first side, and a Zener diode coupled to the lead wires through the openings on the second side, wherein the LED and the Zener diode are disposed on the lead wires on the first side and the second side respectively.

Claim 8 (Original): The liquid crystal module as claimed in claim 7, wherein the Zener diode and the LED are correspondingly located on the first side and the second side.

Claim 9 (Original): The liquid crystal module as claimed in claim 7, wherein the Zener diode is coupled to the lead wires by welding.

Claim 10 (Original): The liquid crystal module as claimed in claim 7, wherein the body is rectangular.

Claim 11 (Original): The liquid crystal module as claimed in claim 7, wherein the body is made of plastic.

Claim 12 (Original): The liquid crystal module as claimed in claim 7, wherein the liquid crystal module is a liquid-crystal display of a mobile phone.

Claim 13 (Original): The liquid crystal module as claimed in claim 7, wherein the liquid crystal module is a liquid-crystal display of a personal digital assistant.

Claim 14 (Previously presented): A liquid crystal module, comprising:

- a body; and

- a circuit board comprising:

- an insulating substrate;

- a plurality of lead wires enclosed by the insulating substrate;

- an LED; and

- a Zener diode;

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wherein a plurality of openings are provided in the insulating substrate exposing the lead wires, and the LED and Zener diode are each coupled to the lead wires through the openings.

Claim 15 (Previously presented): The liquid crystal module as claimed in claim 14, wherein the LED and the Zener diode are juxtaposed on the lead wires.

Claim 16 (Previously presented): The liquid crystal module as claimed in claim 14, wherein the insulating substrate further comprises a first side and a second side, and the openings are formed on the first side and the second side to expose the lead wires, wherein the LED is coupled to the lead wires through the openings on the first side and the Zener diode is coupled to the lead wires through the openings on the second side, to dispose the LED and the Zener diode on the first side and the second side, respectively.

Claim 17 (Previously presented): The liquid crystal module as claimed in claim 14, wherein the LED corresponds to the Zener diode.

Claim 18 (Previously presented): The liquid crystal module as claimed in claim 14, wherein the plurality of openings are provided on a first side of the insulating substrate, and the LED and the Zener diode arranged in parallel on the first side of the insulating substrate.

Claim 19 (Previously presented): The liquid crystal module as claimed in claim 14, wherein:
the plurality of openings include first openings provided on a first side of the insulating substrate and second openings provided on a second side of the insulating substrate opposite the first openings;
the LED is coupled to the lead wires through the first openings; and
the Zener diode is coupled to the lead wires through the second openings opposite the LED.

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Claim 20 (Previously presented): The liquid crystal module as claimed in claim 14, further including a port, wherein the lead wires enclosed by the substrate connect the LED and Zener diode to the port.

Claim 21 (New): The liquid crystal module as claimed in claim 14, wherein the plurality of lead wires include at least a first lead wire and a second lead wire, and the LED and Zener diode are each coupled to each of the first and second lead wires in parallel through the openings and on the same side of the insulating substrate.

Claim 22 (New): The liquid crystal module as claimed in claim 21, wherein the first and second lead wires extend in a direction parallel to a top or bottom surface of the substrate.